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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,021	06/07/2001	Nobuhiro Kihara	SON-2139	9245

7590

08/07/2003

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,021

Applicant(s)

KIHARA, NOBUHIRO

Examiner

Arnel C. Lavarias

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2003 and 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/5/03 in Paper No. 15 has been entered.

Response to Amendment

2. The cancellation of Claims 1-5, 7-10, and 12 in Paper No. 17, dated 7/29/03, is acknowledged and accepted.
3. The addition of Claims 13-27 in Paper No. 17, dated 7/29/03, is acknowledged and accepted.

Response to Arguments

4. In view of the amendments above, the rejections to Claims 1-5, 7-10, and 12 in Paper No. 6, dated 11/7/02, are respectfully withdrawn.
5. Claims 13-27 are rejected as follows.

Claim Rejections - 35 USC § 102

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 13-17, and 20-27 are rejected under 35 U.S.C. 102(b) as being anticipated by

Brooks et al. (U.S. Patent No. 4082415) *of record*

Brooks et al. discloses a holographic exposure apparatus and method (See Figure 1), the apparatus and method comprising an image generation system generating a plurality of images in a parallax direction, the image generation system including a spatial light modulating section (See 10, 11, 12, 13 in Figure 1) having a plurality of portions in a parallax direction (parallax direction being defined in the plane of the page along a direction from the top to the bottom of, for example, element 10, 11, 12, or 13), a portion of the plurality of portions displaying an image of a plurality of images (See upper light path and lower light path near P and 13, respectively, for individual images), each of the plurality of images corresponding to a respective element hologram; an overlay projection optical system (See 14 18 in Figure 1) receiving a light beam that has passed through the plurality of portions and superposing the plurality of portions to form a superposed image of the plurality of portions; and a beam-condensing projection optical system (See 16 in Figure 1, essentially a first group lens) condensing the superposed image in the parallax direction and separating the plurality of portions from the condensed superposed image in the parallax direction, the plurality of portions being separated from the condensed superposed image for recording onto the hologram

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recording medium (See 20 in Figure 1). Brooks et al. additionally discloses a reference beam optical system (See 22, 23 in Figure 1) that projects a reference beam onto the hologram recording medium for interference with the plurality of images projected on the hologram recording medium; the spatial light modulation section being divided into a horizontal direction (See 11, 13 in Figure 1; horizontal direction being taken as the same direction as the parallax direction); the separated plurality of images being simultaneously recorded onto the hologram recording medium (See Figure 1) in a parallax direction; the spatial light modulation section being divided into both vertical and horizontal directions (See 11 of Figure 1; col. 3, line 31-col. 4, line 10; the use of a multiple lenslet array for element 11 in Figure 1 provides parallax in both the horizontal and vertical directions); and the beam-condensing projection optical system projecting the superposed image onto the hologram recording medium in a non-parallax direction (the non-parallax direction is taken as perpendicular to the parallax direction and lies in a direction going into and out of the page).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks

et al. in view of Chen (U.S. Patent No. 4783133) *of record*

APG
8/7/03

Brooks et al. discloses the invention as set forth above in Claim 13, except for the beam-condensing projection optical system being provided with a second group lens to guide the superposed image to a beam condensing cylindrical lens or a correction lens between the first and second group lens for correcting unevenness of the angle of field for each element hologram on the hologram recording medium. However, Chen teaches a holographic stereogram exposure apparatus (See for example Figure 11) comprising a means for separately displaying a plurality of images in a parallax direction (See 88 in Figure 11); and an object beam optical system (See 84 of Figure 11; col. 9, line 57-col. 12, line 2) that projects light beams passing through the plurality of images displayed to form a superposed image of said plurality of images, and condenses the superposed images to separately project the plurality of images in the parallax direction on a holographic recording medium (See 92 of Figure 11). In particular, the beam-condensing projection optical system (See 122 and 124 of Figure 11-12) includes a first (See 114 or 130, 122 in Figure 11-12) and a second group lens (See 131, 122 in Figure 11-12; col. 10, lines 37-46) to guide the superposed image to a beam condensing cylindrical lens (See 124 in Figure 11-12), and a correction lens (See for example 130 in Figure 11-12) between the first and second group lens for correcting unevenness of the angle of field for each element hologram on the hologram recording medium. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the beam-condensing projection optical system be provided with a second group lens to guide the superposed image to a beam condensing cylindrical lens or a correction lens between the first and second group lens for correcting unevenness of the angle of

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field for each element hologram on the hologram recording medium, as taught by Chen, in the holographic exposure system of Brooks et al., for the purpose of reducing spatial bandwidth along the vertical dimension, while ensuring that a full image is exposed onto the holographic medium by providing a means for adjusting the image size in the vertical dimension.

Conclusion

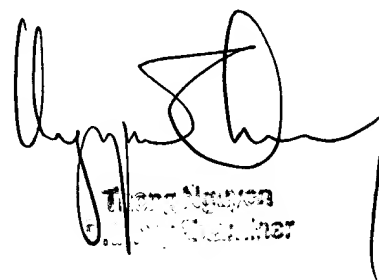
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 703-305-4007. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Arnel C. Lavarias
August 4, 2003



Drew Dunn
Supervisor